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CURRENT LITERATURE

BOOK REVIEWS

Texts for secondary schools

The authors of *Applied biology*¹ do not wish to indicate by the title any unusual predominance of economic material. Their book is a text of general biology, in which the materials used do not differ particularly from those commonly found in secondary texts of botany and zoology. This book is certainly very much superior to that type of textbook in general biology which consists of three wholly distinct books bound within the same cover, but one may find reason for doubting that even here we have a satisfactory organization of botany, zoology, and human physiology into a single instructional unit. It is of interest to note that but 10 per cent of the book is sufficiently "general" to hinder its transfer bodily to textbooks of botany, zoology, or physiology. There are a number of minor botanical errors, but these will not hinder the book from being successfully used where it is desired to conduct a general biology course. It is unfortunate that many of the cuts were copied from other books with the original labeling, and this is in many cases not explained by the legend.

The textbook of botany by ANDREWS² is evidently a revision of the earlier book by the same author, intended to meet the present demand for instruction in botany "with especial reference to agriculture, economics, and sanitation." It quite fails to measure up to the demand. The insertion of a few paragraphs on economic subjects is not sufficient to metamorphose a book into the type for which the present popular demand calls. Judged by any standards other than the present popular enthusiasm for applied material, the text of the book would be considered satisfactory. The illustrations are much less satisfactory. A large number of the cuts have been copied, sometimes without credit. The photographs have been retouched and otherwise modified to the point of falsification. It seems unpardonable in these days of easy illustration to attempt to show the characteristics of climbers by a "faked" photograph of a grape vine, or to illustrate important principles of plant breeding by a drawing with the same scientific and artistic merit as a country newspaper cartoon. One cannot but feel that in its present form the book is not worthy of its author or of its publishers.

¹ BIGELOW, M. A., and BIGELOW, A. N., *Applied biology*. 8vo. pp. xi+583. *figs.* 166. New York: Macmillan. 1911.

² ANDREWS, E. F., *A practical course in botany, with editorial revision by F. E. LLOYD*. 8vo. pp. ix+374. *figs.* 511. New York, Cincinnati, Chicago: American Book Co. 1911.

The book by PEABODY and HUNT³ is principally interesting as illustrating a very distinct recent tendency in elementary botanical instruction. It will be recalled that not long since our elementary texts emphasized morphology and anatomy. Of late the new books have been giving more and more space to the physiology and ecology of seed plants. The book under review carries this to the extreme by relegating the morphology to a final "optional" chapter. Such an extreme position will scarcely be accepted generally, but the tendency in that direction is unmistakable.

The tendency toward the abbreviation of the morphological part of the work is evident also in *Experimental botany*.⁴ The last chapter in the book takes up the "cryptogams." This book is a laboratory manual rather than a textbook, though there is a small amount of descriptive text. Its unique feature is in the experimental attitude which is maintained throughout. The author feels that botany should be taught experimentally in the same sense that physics or chemistry is so taught; the selection of physiological materials follows naturally. The laboratory directions appear to be workable. A large number of the experiments are new to elementary texts. The new point of view and the new experiments make it a stimulating book for teachers.

The laboratory manual by FRYE and RIGG⁵ is intended to meet the needs of teachers on the Pacific slope. The species suggested for laboratory work are selected with reference to the western flora. The directions for work are well written, and it is in every way an excellent little book. While it is written with western conditions in mind, and must be particularly welcome in that part of the country, it would be quite usable in the East as well.—W. L. EIKENBERRY.

MINOR NOTICES

Flora of Porto Rico.—The publication of the fourth fascicle of Vol. IV of URBAN'S *Symbolae Antillanae*,⁶ which includes the sympetalous groups from the genus *Tamonea* of the Verbenaceae to the end of the Compositae, under the subsidiary title of *Flora portoricensis*, brings to a close a consideration of one of the most interesting of our insular floras. New species are described in *Priva*, *Dicliptera*, and *Psychotria*. The taxonomic part is followed by a *Nachwort*, in which the author sets forth the purpose of the work and reviews

³ PEABODY, J. E., and HUNT, A. E., *Elementary plant biology*. 8vo. pp. xvi+207. figs. 91. New York: Macmillan. 1912.

⁴ PAYNE, F. O., *Manual of experimental botany*. 8vo. pp. 272. figs. 117. New York, Cincinnati, Chicago: American Book Co. 1912.

⁵ FRYE, T. C., and RIGG, G. B., *Laboratory exercises in elementary botany*. 8vo. pp. xxii+139. Boston: Ginn & Co. 1911.

⁶ URBAN, IGNATIUS, *Symbolae Antillanae seu fundamenta florum Indiae Occidentalis*, Vol. IV, fasc. 4. pp. 529-771. *Flora portoricensis*. Leipzig: Fratres Borntraeger. 1911.